

March 20, 2008

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RECEIVED
OHIO EPA
MAR 25 2008
DIV. OF HAZARDOUS
WASTE MGT.

Re: Comment Response Letter
Closure Plan – Utility Trench Beneath 48-Inch Galvanizing Line
Wheeling Pittsburgh Steel
Martins Ferry Plant
OHD 010 448 231

Dear Mr. Sholtis:

This letter provides Wheeling Pittsburgh Steel's (WPS) responses to the comments contained in the January 30, 2008 letter from the Ohio Environmental Protection Agency (OEPA) regarding the Closure Plan for the Utility Trench Beneath the 48-Inch Galvanizing Line at WPS's facility in Martins Ferry, Ohio that was submitted to OEPA on October 30, 2007. Our responses are based, in part, on discussions during the meeting between WPS and OEPA representatives at WPS's Yorkville Plant on February 5, 2008. To help facilitate your review, OEPA's comments are provided in bold typeface followed by WPS's response. The Closure Plan has also been revised as described in our responses and is enclosed for your review. As requested in the comment letter, the Closure Plan was revised by striking over old text to be deleted and capitalizing/italicizing new text that has been added. The cover and table of contents have also been revised to reflect these changes.

Many of OEPA's comments are based upon RCRA corrective action and OEPA closure plan requirements. Please again be reminded that WPS asserts that RCRA corrective action and OEPA closure plan requirements are not applicable. As you know, there have been extensive correspondence, meetings and frustration (for both WPS and OEPA) related to these issues, as they have been raised over the past ten or more years. All of this has combined to cost WPS large amounts of money, distraction of limited personnel resources and, importantly, an undesired worse-than-necessary relationship with OEPA. Because WPS believes that this closure plan approach is an appropriate avenue to eliminate these costs and distractions in the future, it has decided to cooperate with OEPA in this fashion. And I must say that working

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with OEPA in this regard has been professionally and personally pleasant. Thus, because WPS believes that the areas of concern identified by OEPA are not problematic from an environmental standpoint, WPS has made a business decision to further investigate and, if appropriate, to remediate those areas of concern identified by OEPA and to do so in alignment with Ohio requirements that would be applicable to hazardous waste treatment, storage and disposal facilities. In this way, WPS believes it will be able to demonstrate, finally, that no further action is necessary with regard to these areas of concern.

In order to be as responsive as possible without cluttering the response, we have chosen not to take issue with specific references to corrective action and closure plan requirements in our response. Again, please be reminded that WPS does not agree that such requirements are applicable.

Thank you for your continued cooperation. Our further comments are provided below and the revised Closure Plan is attached.

General Comments

1. In accordance with OAC rule 3745-66-12 (B)(6), the plan must be revised to include a schedule of closure activities. As the closure period begins on the date the plan is approved by the director, the schedule of activities should not be specified in terms of calendar dates but rather in terms of days/weeks from the plan approval. All critical closure activities (sampling, decontamination, etc.) should be noted on the schedule and activities that will be overseen by the Professional Engineer should be identified.

In addition, the plan should clearly indicate that WPSC will notify Ohio EPA SEDO staff (John Rochotte), at a minimum, five working days in advance of critical on-site activities such as the planned soil sampling or if additional soil sampling is required. Lastly, the plan should include a provision for requesting an extension to the closure period (in accordance with OAC rule 3745-66-13 (B)) should the closure activities, of necessity, take longer than the approved closure period.

RESPONSE

A new section ("Section 7.0 - Schedule") has been added to the Closure Plan. This section provides a schedule for the significant closure activities, indicates which activities will be overseen by a representative of the Professional Engineer, notes that OEPA will be notified at least five working days prior to the start of critical on-site

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activities, and includes a provision for requesting an extension to the closure period should closure activities take longer than the approved closure period.

2. **The plan must be revised to include basic, summary information regarding geologic and hydrogeologic conditions at the site. This information should include such items as proximate depth to groundwater, flow direction, yield, and any impacting features (e.g., production wells, Ohio River). The plan must also include a general assessment of the potential for impacts to groundwater from the unit undergoing closure (see Section 3.12 of the 2006 CPRG for further guidance). And, the plan must provide a basis for why a groundwater investigation is not appropriate or practical in this situation.**

RESPONSE

A new section ("Section 3.0 - Physical and Hydrogeologic Setting") has been added to the Closure Plan that provides a general description of the subsurface and hydrogeologic conditions at the site. A discussion of potential impacts to groundwater and why a groundwater investigation is not warranted for this situation has been added to Section 4.2 of the revised Plan.

3. **Pursuant to OAC 3745-66-15, a certification of closure must be submitted within 60 days of completion of closure activities. The plan should be revised to acknowledge this requirement and specify the information that will be included in the certification (see Section 5.2 of the 2006 CPRG for examples of the types of relevant information –<http://www.epa.state.oh.us/dhwm/cprg.html>).**

The certification should also include a statement as to the RCRA regulatory status of the facility (e.g., Large Quantity Generator, etc.) after closure. The plan should acknowledge that the certification must include the wording requirements found in OAC rule 3745-50-42 (D) and be signed by the owner/operator and the independent, State of Ohio registered professional engineer.

RESPONSE

A new section ("Section 6.0 - Closure Certification") has been added to the Closure Plan. This section includes an acknowledgement that a Closure Certification Report will be submitted to OEPA within 60 days of completion of closure activities and that the report will include the certification statement found in OAC Rule 3745-50-42 (D) that will be signed by the owner/operator and an independent, State of Ohio registered professional engineer. Finally, the new Section 6.0 provides a list of the relevant

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information that will be included in the certification report, including the RCRA regulatory status of the Facility after closure.

Section 1.0 Introduction

- 4. The plan states that Chemtreat is discarded as a hazardous waste. The Ohio EPA believes that the disposal site and waste classification should be included within the closure plan. The Chemtreat solution should also be analyzed to ensure that any underlying hazardous waste is properly classified for disposal.**

RESPONSE

As agreed upon during the February 5th meeting, the Material Safety Data Sheet (MSDS) for the Chemtreat solution will be used to identify the constituents in the solution in lieu of laboratory analysis. The MSDS has been added to the revised Closure Plan as Appendix A. Section 1.0 of the Closure Plan has also been revised to identify the disposal site where spent Chemtreat solution is disposed.

- 5. The plan specifies that the trench was observed to have been filled with sludge sometime during 2006. The plan should be revised to include information (or estimation) about the total period of use for this process and if the liquid had previously been seen.**

RESPONSE

A statement has been added to Section 1.0 of the revised Closure Plan providing the requested information concerning the total period of use and that WPS personnel had not noticed liquids in the trench prior to 2006.

- 6. The plan states that testing of the liquid within the trench was done. These test results must be included in the closure plan.**

RESPONSE

The analytical results of the liquid samples that were collected by OEPA and split with WPS on January 30, 2007 have been added to the revised Closure Plan as Appendix B. Section 1.0 of the Closure Plan has been revised to reference Appendix B.

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Section 3.1 Constituents of Concern

7. The plan lists the only constituent of concern (COC) as chromium. However, on January 3, 2007, Ohio EPA sampled the liquid from the trench and received the results on February 5, 2007. The results indicated the liquid tested for selenium and Ohio EPA notified WPS about this result. Therefore, selenium must be added to the list of COCs.

RESPONSE

As indicated in section 1.0 of the Closure Plan, selenium is not identified as a constituent of Chemtreat. Also, the WPS sample was taken at the same location as the OEPA sample, by the same sampler, and was analyzed following TCLP extraction using EPA Method 6010B, just as OEPA's sample was extracted and analyzed. WPS's sample results showed no detection above the detection limit of 1.0 mg/l as compared to OEPA's laboratory's result of 54.9 mg/l. In addition to using Method 6010B, WPS's laboratory also used EPA Method 6020 which employs a mass spectrometer analysis and showed no detection above the detection limit of 0.25 mg/l. Based upon our review of the QA/QC information from the elevated result, it is possible that sample preparation, dilution or other factors may have contributed to an incorrect result. WPS is willing to discuss this situation further with OEPA, but feels the best course for now is to include chromium as the only COC.

Section 3.2 Soil Samples

8. The wording in this paragraph is "WPSC will attempt to collect two soil samples from beneath the trench at this location." While Ohio EPA recognizes that access in the area is limited due to the existing structures, collection of environmental data is necessary to determine if hazardous waste or hazardous constituents have been released to the environment. Therefore, while the plan may speak to an "attempt" to collect a soil sample at that particular location, it must be revised to clearly indicate that some form of soil sampling will be completed in that general area. In fact, a single sample location is at one part of the unit is not an adequate release assessment. At least two additional locations must be included. Ohio EPA is suggesting the following locations: near the Chemtreat tank and near the hydraulic unit as these units are shown on Figure No. 2. During the visit Ohio EPA made in October 2007 to the Martins Ferry Plant, WPS alluded to the trench having been compromised with cracks in the concrete. Therefore, existing information regarding trench integrity (e.g., photos, engineering assessments) could be used to define sampling locations. In addition, Ohio EPA is recommending that samples be

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collected beyond the two foot depth at each location (at least two additional intervals) and archived for future potential analysis if needed as is outlined in the closure plan for the Yorkville plant.

In order to more easily access the trench area and provide for representative samples under the trench, the sample locations can be angled so as to reach under the trench area. A hammer drill with a masonry bit can be used to access soil underlying the concrete rather than a coring machine and then a soil-coring sampler can be used to obtain the samples.

RESPONSE

As discussed during the February 5th meeting, the use of a hammer drill and hand core sampler may not be practical for collecting soil samples beneath the trench, and the area adjacent to the hydraulic tank is not accessible with the concrete coring machine. As discussed, we will core through the concrete backfill and floor of the trench and collect soil samples beneath the trench at the originally proposed location. In addition, we will move the Chemtreat tank and drill a boring at an approximate 30 degree angle (using a direct push rig) adjacent to the galvanizing line to collect soil samples beneath the northern section of the trench. A narrative description of the additional proposed boring has been added to Section 4.2 of the revised Closure Plan (formerly Section 3.2). Figure 2 has also been revised to show the additional boring location. Section 4.2 has also been revised to state that four soil samples will be collected at each boring location, with the upper two samples submitted for laboratory analysis and the lower two samples archived for later analysis, if necessary, pending the results of the upper two samples.

- 9. To ensure quality soil sample acquisition, the plan should be revised to include a Standard Operation Procedures (SOP) or equivalent document for the hand auger activities. The SOP or the plan should specify procedures for contingencies such as core barrel refusal or loss of sample integrity. In addition, sample boring logs should be submitted as a part of the closure certification documentation. An example boring log data sheet should be included in the revised plan.**

RESPONSE

Section 4.2 of the revised Closure Plan has been revised to reference Standard Operating Procedures (SOPs) for hand auger and direct push soil sampling. The SOPs have been added to the revised Closure Plan as Appendix C. Section 4.2 has also been revised to include a statement that a boring log will be completed for each boring and included in the Closure Certification Report. An example boring log has been added to the Closure

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Plan as Appendix D.

10. The plan should include a discussion on field quality control (QC) samples (number & type, e.g., field blanks, trip blanks, etc.) and the frequency at which field QC samples will be collected. The plan should specify how QC data will be used and what actions will result if field QC criteria are triggered.

RESPONSE

A new section ("Section 4.3 - Quality Control Samples") has been added to the revised Closure Plan that describes the types and frequency of QC samples that will be collected. This section also includes a description of how the QC data will be used and what actions will result if QC actions are triggered.

Section 4.0 Comparison with Remediation Standards

11. The plan states that the soil samples will be compared to the Generic Cleanup Numbers (GCN). There is no wording as to which GCN type will be chosen, either direct contact or ground water (GW) protection. Also, the table included within the text lists GW protection for a dilution attenuation factor (DAF) of 20 with no justification of this decision. The closure plan must include which type of cleanup numbers to which the samples will be compared. The use of the "lowest GCN" approach as described within the Yorkville closure plan would be appropriate based on the particular circumstances of this closure. Typically, it is inappropriate to use Ohio EPA's GCNs to define the extent of contamination. As the entire facility is subject to RCRA Corrective Action requirements, any historic contamination beyond the unit boundary will need to be addressed as appropriate under site-wide remediation activities. The plan should include a statement which speaks to the intent regarding site-wide cleanup. In addition, the plan must include a justification for the use of a 20 DAF for the protective of groundwater GCN.

RESPONSE

Section 5.0 of the revised Closure Plan (formerly Section 4.0) has been revised to indicate that the soil analytical results will be compared to the lowest GCN. A statement has also been added to Section 5.0 providing the justification for the use of a 20 DAF for the groundwater protection GCN. Finally, a statement has been added to Section 5.0 indicating that historic contamination identified beyond the Closure Area boundary will be addressed on a site-wide basis.

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12. The plan mentions an addendum to this closure plan will be provided to further characterize the area if necessary. The word "addendum" should be changed to "amendment" in accordance with OAC rule 3745-66-12 (C) and the "approach" should be expanded to be more specific such as including depth, different lateral samples, other types of characterizations and any other information relating to how the extent of contamination will be determined.

RESPONSE

The word "addendum" has been changed to "amendment" in Section 5.0 of the revised Closure Plan. Given the severe access constraints in the area of the former trench, the approach to additional investigation would be different for GCN exceedences at boring SS1 versus boring SS2. WPS would prefer to leave the wording in the Closure Plan as is and discuss options for additional investigation with OEPA should the GCN be exceeded in the initial samples.

Please call Bud Smith at (304) 234-2662 if you have any questions or if further revisions are necessary. To avoid the expense and adversity of an appeal, please do not modify and then issue the Closure Plan to WPS. We are confident that we can continue to work cooperatively to address any remaining issues, but WPS cannot accept revisions unless they have been reviewed, considered and authorized by WPS. Thank you for your continued cooperation.

Sincerely,



Kenneth S. Komoroski

KSK:mkf

Attachments

cc: Jim Sferra – OEPA
Dave Olson – CEC
Bud Smith

**CLOSURE PLAN
UTILITY TRENCH BENEATH 48-INCH GALVANIZING LINE
MARTINS FERRY PLANT**

Prepared For:

WHEELING PITTSBURGH STEEL

Prepared By:

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
EXPORT, PENNSYLVANIA**

CEC Project 071-795.0003

**October 30, 2007
Revised March 20, 2008**

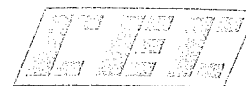
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FIGURES

Figure 1 – Site Location

Figure 2 – Trench Layout

APPENDICES

Appendix A – Material Safety Data Sheet (MSDS) for Chemtreat Solution

Appendix B – Laboratory Analytical Results of Liquid Samples from Trench

Appendix C – Standard Operating Procedures

Appendix D – Example Soil Boring Log

Appendix E – Photographs



1.0 INTRODUCTION

Wheeling Pittsburgh Steel (WPS) operates a steel manufacturing facility in Martins Ferry, Belmont County, Ohio (Figure 1). As part of the manufacturing process, steel sheet coils are run through a 48-inch galvanizing line (Figure 1). The galvanizing line uses a chromium treatment referred to as "Chemtreat" as specified by customers for certain products. The Chemtreat product used on this line is Okemcoat F1 manufactured by Chemetall Oakite. This product is comprised of the following:

<u>Component</u>	<u>Wt. %</u>
Phosphoric Acid	10-20%
Chromium(III) Phosphate	10-20%
Chromium(VI) Trioxide	10-20%
Non-hazardous ingredients	Balance

Due to the concentrations of total chromium (approximately 200,000 mg/L) contained in Chemtreat, its residues are considered hazardous waste upon being discarded. *A MATERIAL SAFETY DATA SHEET (MSDS) FOR THE CHEMTREAT SOLUTION IDENTIFYING ITS CHEMICAL CONSTITUENTS IS ATTACHED AS APPENDIX A. THE SPENT CHEMTREAT SOLUTION IS TREATED AND DISPOSED AT MAX ENVIRONMENTAL, YUKON, PA.*

During 2006, Ohio Environmental Protection Agency (EPA) personnel observed that brown liquid was contained beneath the 48-inch line in a narrow trench. This trench is approximately 12 inches wide, 12 inches deep, and 10 feet long and is located directly beneath (perpendicular to) the galvanizing line approximately 10 feet away from the Chemtreat application section. Adjacent to this section of the galvanizing line is an oil-filled hydraulic unit. The liquid in the trench was thought by plant personnel to have resulted from the hydraulic unit. *IT IS NOTED THAT THE 48-INCH GALVANIZING LINE HAS BEEN IN OPERATION SINCE 1955 AND THAT WPS PERSONNEL HAD NOT NOTICED LIQUIDS ACCUMULATED IN THE TRENCH PRIOR TO 2006.*



On January 3, 2007, Ohio EPA visited the facility to inspect the trench and obtain a sample of the liquids to determine whether Chemtreat (chromium) was present in the trench liquids. The trench contained approximately 4 inches of liquid/sludge (approximately 20-25 gallons of liquid). The sample was obtained by Ohio EPA using a "coliwasa" type liquid cross-section sampler, thus allowing a cross-section of liquids to be obtained. The cross-section showed a thin layer of brown liquid underlain by a liquid with a bright green appearance. Ohio EPA provided a split sample to WPS. The analytical results from both the Ohio EPA and WPS samples indicated the liquid contained chromium at a concentration greater than 7500 mg/L. *THE OHIO EPA AND WPS ANALYTICAL RESULTS ARE ATTACHED AS APPENDIX B.*

Ohio EPA returned on February 8, 2007 to present the analytical results to WPS and further inspect the trench. Upon further inspection, the trench was determined to have an additional 6-foot long section at a right angle to the 10-foot section beneath the line. This section of the trench was adjacent to the hydraulic unit and covered by a metal plate. During the visit, Ohio EPA requested the liquids in both sections of the trench be removed as soon as feasible.

This closure plan documents the actions that were taken by WPS to remove the liquids and clean the trench, as well as a soil sampling program to determine whether liquids previously contained in the trench have leaked into underlying soils. *DESPITE THE FACT WPS BELIEVES NO CLOSURE PLAN IS REQUIRED UNDER HAZARDOUS WASTE REGULATIONS, WPS IS SUBMITTING THIS CLOSURE PLAN IN ORDER TO ADDRESS AND RESOLVE ISSUES IDENTIFIED BY OHIO EPA.*



2.0 TRENCH CLEANING AND BACKFILLING

2.1 FIRST CLEANING EVENT, FEBRUARY 2007

On February 11, 2007, HAAS Environmental removed the liquids and cleaned the trench. Liquids were first absorbed using an absorbent ("floor dry"). The floor dry and other sludge/solids within the trench were removed using a shovel and placed in a lined dump hopper prior to placement in the storage roll-off container. After removal of sludge/solids, residues on the concrete surface of the floor and walls of the trench were removed by three rounds of cleaning. First, the surface was scoured using a wire brush and detergent to remove loose concrete and entrained chemical, followed by an absorbent ("floor dry") application. After the floor dry from cleaning Step 1 was removed, two successive steps of detergent application were performed. During these steps, the trench was scrubbed using a firm bristled brush, and the residues were removed by application and removal of absorbent. These residues were also placed in lined dump hoppers. A total of six hoppers of waste were collected for disposal. Due to extreme cold and splashing concerns, no water rinsing of the trench was performed, and a rinsate test was delayed until the following week.

On February 18, 2007 a rinsate sample was obtained by HAAS Environmental by placing approximately five gallons of water in the bottom of the trench for 60 minutes. A sample of this water was collected and tested in the field for total chromium. A result of 33 mg/L chromium was obtained. The rinse water was subsequently removed using absorbents and disposed as D007 hazardous waste.

2.2 SECOND CLEANING EVENT, MARCH 2007

HAAS Environmental performed a second cleaning of the trench in March 2007. Liquids (mainly oil) were first absorbed using floor dry. The absorbent materials were removed using a shovel and placed in a lined dump hopper prior to placement in the roll-off container. After



removal of absorbent materials, three rounds of cleaning were performed. For each cleaning round, a concrete cleaner was applied to the surface, followed by thorough steam cleaning of the concrete surface. The resulting liquid residues were absorbed using floor dry at the end of each round and removed to a hazardous waste container.

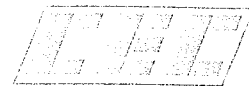
Following the last round of cleaning, a rinsate sample was collected by placing approximately five gallons of water in the bottom of the trench for 60 minutes. A sample of this water was collected for analysis. However, the rinsate had a noticeable yellow/green color and was not analyzed. The rinse water was subsequently removed using absorbents and disposed as D007 hazardous waste.

2.3 THIRD CLEANING EVENT, APRIL 2007

HAAS Environmental performed a third cleaning of the trench in April 2007 using the same procedures that were utilized during the March cleaning event. A rinsate sample was prepared as during the March event; however, it also exhibited a yellow/green color and was not analyzed. The rinse water was subsequently removed using absorbents and disposed as D007 hazardous waste.

2.4 FOURTH UTILITY TRENCH/AREA CLEANING EVENT, MAY 2007

HAAS Environmental performed a fourth cleaning of the trench in May 2007 using similar procedures as during the March and April events. However, on this occasion, for each cleaning round, a degreaser was applied to the surface, followed by application of the concrete cleaner, and thorough steam cleaning of the concrete surface. The resulting liquids/residues were absorbed using floor dry at the end of each round and removed to a hazardous waste container. A rinsate sample was prepared as during the March and April events. Again, the sample exhibited a yellow/green color and was not analyzed. The rinse water was subsequently removed using absorbents and disposed as D007 hazardous waste.



2.5 FILLING OF UTILITY TRENCH, MAY 2007

Due to remaining Ohio EPA concerns regarding the utility trench and difficulty in keeping it clean, WPS decided to fill the trench to prevent future accumulation of liquids. The trench was backfilled with concrete on May 30, 2007. *JUST PRIOR TO PLACING THE CONCRETE BACKFILL, A THOROUGH EXAMINATION OF THE CLEANED TRENCH WAS MADE BY WPS, AND TWO THIN CRACKS WERE DISCOVERED. A CRACK ALONG THE FLOOR OF THE TRENCH APPROXIMATELY 12 TO 18 INCHES LONG WAS OBSERVED NEAR THE EASTERN END OF THE TRENCH, WHILE A CRACK APPROXIMATELY 6 INCHES LONG WAS OBSERVED ALONG THE NORTH SIDEWALL NEAR THE CENTRAL PORTION OF THE TRENCH. THE APPROXIMATE LOCATIONS OF THESE CRACKS ARE SHOWN ON FIGURE 2 AND PHOTOGRAPHS ARE INCLUDED AS APPENDIX E.*



3.0 PHYSICAL AND HYDROGEOLOGIC SETTING

THE MARTINS FERRY FACILITY IS SITUATED ON A HISTORIC FLOOD PLAIN TERRACE OF THE OHIO RIVER. FILL MATERIALS CONSISTING OF SOIL, SLAG, AND OTHER INDUSTRIAL BYPRODUCTS HAVE HISTORICALLY BEEN PLACED ACROSS THE SITE TO RAISE THE GROUND SURFACE ABOVE THE 100-YEAR FLOOD PLAIN. THE DEPTH OF FILL MATERIALS VARIES ACROSS THE SITE. THE FILL MATERIALS REST DIRECTLY ON NATURAL ALLUVIAL SOILS DEPOSITED BY THE OHIO RIVER. THESE DEPOSITS GENERALLY CONSIST OF FINE-GRAINED FLOOD PLAIN SEDIMENTS THAT COARSEN DOWNWARD TO SAND AND GRAVEL AND REST DIRECTLY ON SEDIMENTARY STRATA (BEDROCK). THE DEPTH TO BEDROCK BENEATH THE CLOSURE AREA IS ESTIMATED AT APPROXIMATELY 60 FEET BELOW GROUND SURFACE. THE SAND AND GRAVEL ALLUVIAL DEPOSITS FORM AQUIFERS AND ARE OFTEN USED AS A WATER SUPPLY SOURCE FOR MUNICIPALITIES AND INDUSTRIAL FACILITIES. THE CITY OF MARTINS FERRY OPERATES SEVERAL MUNICIPAL WATER SUPPLY WELLS NORTHEAST OF THE FACILITY.

THE GROUNDWATER TABLE BENEATH THE CLOSURE AREA LIES WITHIN THE ALLUVIAL DEPOSITS. IN GENERAL, GROUNDWATER FLOW IS ANTICIPATED TO BE TOWARDS THE OHIO RIVER; HOWEVER, LOCAL HYDRAULIC GRADIENTS AND FLOW DIRECTIONS MAY VARY DUE TO THE EFFECTS OF THE CITY WELLS, SPATIAL VARIATIONS IN LITHOLOGY OF THE ALLUVIAL DEPOSITS, AND POSSIBLE INTERMITTENT SUBSURFACE WATER LEAKS AT THE FACILITY THAT MAY RECHARGE GROUNDWATER LOCALLY.



34.0 SOIL SAMPLING AND ANALYSIS

34.1 CONSTITUENTS OF CONCERN

The primary constituent of concern (COC) associated with the Chemtreat solution is chromium. Therefore, all soil samples collected as part of closure of the utility trench will be analyzed for total and hexavalent chromium.

34.2 SOIL SAMPLES

Access to the former utility trench is severely limited due to the existence of the active galvanizing line and related structures. Due to these limitations, only ~~one~~ TWO locationS along the trench (refer to Figure 2) is ARE potentially accessible for the equipment needed to perform soil sampling beneath the trench. ~~WPS will attempt to collect two soil samples from beneath the trench at this location.~~

~~A~~AT LOCATION SS1, a concrete coring machine will be used to core through the concrete backfill and floor of the trench to provide access to the underlying soil. A soil boring will be advanced using a hand auger (*OR OTHER HAND-HELD EQUIPMENT*) techniques to 24 feet below the elevation of the base of the concrete. ~~Two~~FOUR soil samples will be collected at 1-foot depth intervals. A STANDARD OPERATING PROCEDURE (SOP) FOR SOIL SAMPLING USING HAND-HELD EQUIPMENT IS INCLUDED IN APPENDIX C. AT LOCATION SS2, A BORING WILL BE ADVANCED AT AN APPROXIMATE 30 DEGREE ANGLE TO A DEPTH OF 8 FEET BENEATH THE NORTHERN END OF THE TRENCH. THE BORING WILL BE ADVANCED USING DIRECT PUSH TECHNIQUES WITH SOIL SAMPLES COLLECTED AT 2-FOOT DEPTH INTERVALS. AN SOP FOR DIRECT PUSH DRILLING AND SAMPLING IS INCLUDED IN APPENDIX C. A LOG WILL BE COMPLETED FOR EACH BORING TO DOCUMENT SUBSURFACE CONDITIONS ENCOUNTERED, SAMPLE INTERVALS, AND OTHER RELEVANT INFORMATION. AN EXAMPLE BORING LOG IS PRESENTED IN APPENDIX D. ~~with~~eEach sample WILL BE homogenized in a stainless bowl



then transferred directly into clean sample containers provided by the laboratory. *THE UPPER TWO SAMPLES AT EACH LOCATION WILL BE SUBMITTED TO THE LABORATORY FOR ANALYSIS. THE LOWER TWO SAMPLES WILL BE ARCHIVED (STORED IN A REFRIGERATOR) PENDING REVIEW OF THE RESULTS FOR THE UPPER TWO SAMPLES.* All sampling equipment will be cleaned in the field between sample locations using an Alconox and water solution followed by a triple water rinse. All cleaning fluids will be containerized for later disposal.

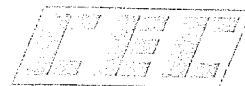
AN INVESTIGATION OF GROUNDWATER IS NOT BELIEVED TO BE WARRANTED AT THIS LOCATION FOR THE FOLLOWING REASONS. FIRST, A RELEASE FROM THE TRENCH IS NOT KNOWN TO HAVE OCCURRED. THE POTENTIAL FOR A RELEASE WILL BE EVALUATED BASED ON THE SOIL SAMPLING DESCRIBED ABOVE. SECOND, GROUNDWATER QUALITY WILL BE ASSESSED ON A SITE-WIDE BASIS.

4.3 QUALITY CONTROL SAMPLES

THREE TYPES OF QUALITY CONTROL (QC) SAMPLES WILL BE COLLECTED IN THE FIELD DURING THE SOIL SAMPLING PROGRAM: EQUIPMENT BLANKS, FIELD DUPLICATES, AND MATRIX SPIKE/MATRIX SPIKE DUPLICATES. THE FOLLOWING PROVIDES A DESCRIPTION OF THESE TYPES OF QC SAMPLES, THEIR CORRESPONDING FREQUENCY OF COLLECTION, AND HOW THE ANALYTICAL RESULTS WILL BE USED TO EVALUATE THE VALIDITY/USABILITY OF THE SOIL SAMPLING RESULTS.

4.3.1 EQUIPMENT BLANKS

EQUIPMENT (OR RINSATE) BLANKS ARE USED TO DEMONSTRATE THAT CONSTITUENTS OF CONCERN ARE NOT INTRODUCED INTO THE FIELD SAMPLES DUE TO IMPROPER OR INADEQUATE DECONTAMINATION OF REUSABLE SAMPLING EQUIPMENT. EQUIPMENT BLANKS WILL BE COLLECTED BY FILLING OR POURING



LABORATORY GRADE DEIONIZED WATER THROUGH THE REPRESENTATIVE DECONTAMINATED SAMPLING DEVICE IMMEDIATELY FOLLOWING DECONTAMINATION AND PRIOR TO ANY SUBSEQUENT SAMPLE COLLECTIONS. THE EQUIPMENT BLANK IS SUBMITTED TO THE LABORATORY AND ANALYZED FOR THE SAME CONSTITUENTS AS THE ASSOCIATED SOIL SAMPLES COLLECTED USING THAT PIECE OF SAMPLING EQUIPMENT. ONE EQUIPMENT BLANK WILL BE COLLECTED PER DAY OR PER EVERY 20 SAMPLES OR FRACTION THEREOF, WHICHEVER IS GREATER. THE EQUIPMENT BLANK ANALYTICAL RESULTS WILL BE EVALUATED BY COMPARING THE RELATIVE AMOUNT OF TARGET ANALYTE DETECTED IN THE FIELD BLANK TO THE ASSOCIATED SAMPLE RESULTS. SAMPLE RESULTS LESS THAN FIVE TIMES ANY AMOUNT DETECTED IN THE FIELD BLANK (AFTER ACCOUNTING FOR SAMPLE PREPARATION FACTORS) WILL BE CONSIDERED BIASED HIGH AND LIKELY ARTIFACTS DUE TO FIELD CONTAMINATION. EVIDENCE OF FIELD CONTAMINATION WILL TRIGGER RETRAINING OF FIELD PERSONNEL ON APPROPRIATE DECONTAMINATION PROCEDURES.

4.3.2 FIELD DUPLICATES

FIELD DUPLICATES WILL BE COLLECTED TO ASSESS SAMPLE MATRIX HETEROGENEITY, AS WELL AS THE PRECISION OF SAMPLE COLLECTION AND LABORATORY ANALYSIS PROCEDURES. FIELD DUPLICATES MEASURE BOTH FIELD AND LABORATORY PRECISION; THEREFORE, THESE RESULTS MAY HAVE MORE VARIABILITY THAN LABORATORY DUPLICATES WHICH MEASURE ONLY LABORATORY VARIABILITY. THIS IS ESPECIALLY TRUE OF SOIL SAMPLES WHICH EXHIBIT GREATER VARIANCE THAN WATER MATRIX DUPLICATES DUE TO DIFFICULTIES WITH COLLECTING IDENTICAL FIELD SAMPLES AND OF THE LABORATORY OBTAINING A REPRESENTATIVE SUBSAMPLE FOR ANALYSIS.



FIELD DUPLICATE SAMPLES WILL BE COLLECTED FROM THE SAME HOMOGENIZED SAMPLE VOLUME AS THE ORIGINAL SOIL SAMPLE AND ANALYZED FOR THE SAME PARAMETERS. FIELD DUPLICATE PRECISION WILL BE EVALUATED BY CALCULATING THE RELATIVE PERCENT DIFFERENCE (RPD) OF THE RESULTS OF THE ORIGINAL AND DUPLICATE SAMPLES. FIELD DUPLICATE SAMPLES WILL BE COLLECTED AT A FREQUENCY OF ONE PER EVERY 20 SAMPLES OR FRACTION THEREOF. THERE ARE NO REGULATORY OR METHOD SPECIFIED CRITERIA FOR THE ANALYSIS OF FIELD DUPLICATE RESULTS. ACCEPTABLE FIELD PRECISION WILL BE DEMONSTRATED BY $RPD \leq 40\%$ (WHICH IS TWICE THE METHOD ALLOWABLE RPD FOR LABORATORY DUPLICATES WHICH MEASURE ONLY LABORATORY PRECISION). IF THE CALCULATED RPD EXCEEDS 40%, THE SAMPLE CONCENTRATION WILL BE ESTIMATED AS A VALUE BETWEEN THE RESULTS OF THE ORIGINAL SAMPLE AND THE FIELD DUPLICATE.

4.3.3 MATRIX SPIKE/MATRIX SPIKE DUPLICATES

MATRIX SPIKE/MATRIX SPIKE DUPLICATES ARE DESIGNED TO INDICATE THE EFFECT OF THE SAMPLE MATRIX ON THE PRECISION AND ACCURACY OF THE RESULTS GENERATED USING THE SELECTED METHOD. MATRIX SPIKES ARE USED TO DETERMINE THE EFFECT OF THE MATRIX ON A METHOD'S RECOVERY EFFICIENCY. SAMPLE RECOVERY IS DETERMINED AS THE PERCENT RECOVERY OF A KNOWN AMOUNT OF ADDED TARGET ANALYTE. THE ANALYSIS OF THE MATRIX SPIKE DUPLICATE IS USED TO OBTAIN A MEASURE OF THE PRECISION OF THE RECOVERY FOR EACH ANALYTE IN THE MATRIX OF INTEREST. PRECISION MAY BE EXPRESSED AS THE RPD BETWEEN THE DUPLICATE SAMPLE ANALYSES. THE PERCENT RECOVERY AND RPD ARE EVALUATED AGAINST EITHER METHOD SPECIFIED CRITERIA OR THE LABORATORY'S STATISTICALLY DERIVED QUALITY CONTROL ACCEPTANCE CRITERIA AS DOCUMENTED IN THEIR QA MANUAL (OR EQUIVALENT DOCUMENT).



MATRIX SPIKE/MATRIX SPIKE DUPLICATES WILL BE COLLECTED AT A FREQUENCY OF ONE PER EVERY 20 SAMPLES OR FRACTION THEREOF. FOR METALS, THE SPIKING LEVEL MUST BE AT LEAST FOUR TIMES THE LEVEL DETECTED DURING THE ORIGINAL ANALYSIS OR THE EVALUATION OF TARGET ANALYTE RECOVERY IS NOT APPROPRIATE. FOR ANALYTES MEETING THIS CRITERIA, RECOVERY RESULTS WILL BE COMPARED TO THE LABORATORY'S ESTABLISHED CRITERIA. RESULTS WILL NOT BE CORRECTED FOR RECOVERY. MATRIX SPIKE RESULTS ARE NOT TYPICALLY USED BY THEMSELVES TO DISQUALIFY DATA USAGE BUT MAY BE USED IN CONJUNCTION WITH OTHER QUALITY CONTROL RESULTS TO EVALUATE DATA USABILITY. POSITIVE RESULTS ASSOCIATED WITH RECOVERIES ABOVE THE UPPER CONTROL LIMIT MAY BE CONSIDERED BIASED HIGH. RESULTS WITH OBSERVED HIGH BIAS THAT ARE BELOW CLOSURE OBJECTIVES ARE FULLY ACCEPTABLE FOR USE WITHOUT QUALIFICATION. POSITIVE RESULTS ASSOCIATED WITH LOW BIAS THAT ARE ABOVE THE CLOSURE OBJECTIVES ARE ALSO FULLY ACCEPTABLE FOR USE WITHOUT QUALIFICATION. RESULTS ASSOCIATED WITH LOW BIAS THAT ARE BELOW CLOSURE OBJECTIVES WILL BE USED WITH CAUTION TO DETERMINE IF PROJECT OBJECTIVES ARE ABLE TO BE MET. POSITIVE RESULTS ASSOCIATED WITH HIGH BIAS THAT EXCEED CLOSURE OBJECTIVES ARE MORE PROBLEMATIC IN THEIR USAGE. IF THE HIGH BIASED RESULT IS NEAR THE OBJECTIVE, ONE OPTION WOULD BE TO ASK THE LABORATORY TO, IF POSSIBLE, REANALYZE THE SAMPLE AND TAKE ANY NECESSARY CORRECTIVE ACTION TO MINIMIZE THE OBSERVED MATRIX EFFECTS. THIS WOULD NEED TO BE EVALUATED ON A CASE BY CASE BASIS.

3.34.4 LABORATORY ANALYSIS

All soil samples will be submitted to TestAmerica Analytical Testing Corporation in Pittsburgh, Pennsylvania for analysis for total chromium by U.S. EPA SW-846 Method 6020 and for hexavalent chromium by U.S. EPA SW-846 Method 7196A.



45.0 COMPARISON WITH REMEDIATION STANDARDS

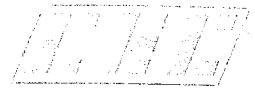
The soil remediation standards selected for this closure are the Generic Cleanup Numbers (GCN) contained in Appendix N of the Ohio EPA Closure Plan Review Guidance for RCRA Facilities dated May 2006. ~~In general,~~ The GCN include risk-based standards for Direct Contact and for Protection of Groundwater, and MCL-based standards for Protection of Groundwater as follows:

Constituent	Direct Contact	GW Protection (Risk-based)	GW Protection (MCL-based)
Chromium (total)	95,900	95,900	NA
Chromium (VI)	210	11.8	NA

THE GCN FOR THE PROTECTION OF GROUNDWATER ARE BASED ON A DILUTION ATTENUATION FACTOR (DAF) OF 20 SINCE THE CLOSURE AREA IS SMALL (<0.5-ACRE), GROUNDWATER IS NOT SHALLOW, AND UNDERLYING SOILS ARE NOT EXPECTED TO BE HIGHLY PERMEABLE.

The analytical results for the ~~two~~ soil samples will be compared to the *LOWEST* GCN. If the analytical results are below the GCN, no further action will be required. If the analytical results are above the GCN, WPS will develop an approach to further characterize the area (considering access constraints), and that approach will be provided to Ohio EPA as an ~~addendum~~ *AMENDMENT* to this closure plan.

HISTORIC CONTAMINATION IDENTIFIED BEYOND THE CLOSURE AREA BOUNDARY WILL BE ADDRESSED ON A SITE-WIDE BASIS.



6.0 CLOSURE CERTIFICATION

A CLOSURE CERTIFICATION REPORT WILL BE PREPARED AND SUBMITTED TO OHIO EPA WITHIN 60 DAYS OF COMPLETION OF CLOSURE ACTIVITIES. THE CERTIFICATION REPORT WILL BE SIGNED BY A REPRESENTATIVE OF WPS AS WELL AS BY AN INDEPENDENT, REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN OHIO. THE CERTIFICATION REPORT WILL INCLUDE THE FOLLOWING STATEMENT ON THE SIGNATURE PAGE:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

THE CERTIFICATION REPORT WILL ALSO INCLUDE THE FOLLOWING:

- THE APPROVED CLOSURE PLAN OR REFERENCE TO THE APPROVED PLAN AND A SUMMARY OF THE CHANGES TO THE PLAN OFFERED BY WPS AND APPROVED BY OHIO EPA AS WELL AS SIGNIFICANT CORRESPONDENCE REGARDING CLOSURE ACTIVITIES;*



- *A NARRATIVE DESCRIBING ALL SIGNIFICANT ACTIVITIES (E.G., SAMPLING, DECONTAMINATION, ETC.) DURING CLOSURE;*
- *THE VOLUME OF WASTE REMOVED INCLUDING WASTE GENERATED BY CLOSURE ACTIVITIES SUCH AS DECONTAMINATION. FOR HAZARDOUS WASTE REMOVED OR GENERATED, DOCUMENTATION WILL BE INCLUDED THAT DETAILS PROPER CHARACTERIZATION OF THE WASTE (SAMPLING DATA) AND PROPER MANAGEMENT TO OFF-SITE FACILITIES (COPIES OF MANIFESTS);*
- *RESULTS OF ALL MEDIA SAMPLING AND ANALYTICAL ACTIVITIES INCLUDING APPLICABLE QUALITY ASSURANCE/QUALITY CONTROL INFORMATION;*
- *DOCUMENTATION THAT CLEANUP STANDARDS DEFINED IN THE APPROVED CLOSURE PLAN HAVE BEEN ACHIEVED AND THAT THE CLOSURE PERFORMANCE STANDARD HAS BEEN MET. THIS MAY INCLUDE DOCUMENTATION THAT ANY APPLICABLE INSTITUTIONAL CONTROLS HAVE BEEN IMPLEMENTED;*
- *SOIL BORING LOGS;*
- *ANY OTHER INFORMATION NEEDED TO DOCUMENT COMPLIANCE WITH THE APPROVED CLOSURE PLAN AND THE CLOSURE PERFORMANCE STANDARD; AND*
- *A STATEMENT AS TO THE RCRA REGULATORY STATUS OF THE FACILITY (E.G., LARGE QUANTITY GENERATOR, ETC.) AFTER CLOSURE.*



7.0 SCHEDULE

THE PROPOSED SCHEDULE FOR COMPLETING THE CLOSURE ACTIVITIES FOLLOWING OHIO EPA'S APPROVAL OF THIS CLOSURE PLAN IS AS FOLLOWS:

<u>TASK</u>	<u>SCHEDULE</u>
1. COORDINATE WITH DRILLER AND LABORATORY FOR PERFORMING SOIL BORINGS/SAMPLING DESCRIBED IN CLOSURE PLAN	4 WEEKS
2. PERFORM SOIL BORINGS/SAMPLING DESCRIBED IN CLOSURE PLAN	1 WEEK
3. LABORATORY ANALYSIS OF COLLECTED SOIL SAMPLES. [FOUR WEEKS ALLOWS FOR ANALYSIS OF INITIAL UPPER 2 SAMPLES AT EACH BORING LOCATION. THE ADDITIONAL 4 WEEKS ALLOWS FOR ANALYSIS OF DEEPER ARCHIVED SAMPLES SHOULD THE UPPER SAMPLE(S) EXCEED THE GCN.]	4-8 WEEKS
4. COORDINATE WITH DRILLER AND LABORATORY FOR ADDITIONAL SOIL BORINGS/SAMPLING TO DEFINE LATERAL EXTENT OF CONTAMINATION (ONLY IF NECESSARY BASED ON INITIAL SAMPLE RESULTS)	4 WEEKS
5. PERFORM ADDITIONAL SOIL BORINGS/SAMPLING TO DEFINE LATERAL EXTENT OF CONTAMINATION (ONLY IF NECESSARY)	1 WEEK
6. LABORATORY ANALYSIS OF ADDITIONAL SAMPLES (ONLY IF NECESSARY)	4-8 WEEKS
7. PREPARATION OF CLOSURE CERTIFICATION REPORT AND SUBMISSION TO OHIO EPA	8 WEEKS



BASED ON THE ABOVE SCHEDULE, THE TIME REQUIRED TO COMPLETE THE CLOSURE ACTIVITIES COULD RANGE FROM 17 TO 34 WEEKS. NOTE THAT THIS SCHEDULE ASSUMES OHIO EPA'S TIMELY APPROVAL OF ADDITIONAL WORK STEPS (IF NECESSARY) AND DOES NOT ACCOUNT FOR UNFORESEEN FIELD CONDITIONS THAT COULD DELAY INVESTIGATION ACTIVITIES.

A REPRESENTATIVE OF THE REGISTERED PROFESSIONAL ENGINEER WILL BE PRESENT DURING ALL OF THE FIELD ACTIVITIES DESCRIBED ABOVE.

WPS WILL NOTIFY OHIO EPA AT LEAST FIVE WORKING DAYS BEFORE INITIATING THE FIELD ACTIVITIES DESCRIBED UNDER TASKS 2 AND 5 DESCRIBED ABOVE. FINALLY, WPS WILL REQUEST AN EXTENSION TO THE CLOSURE PERIOD FROM OHIO EPA SHOULD THE CLOSURE ACTIVITIES, OF NECESSITY, TAKE LONGER THAN PRESENTED IN THE ABOVE SCHEDULE.



FIGURES

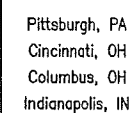
6. 1-2007 C&C SUBJECTS (V1795) DMS (V1795B).DMS (CFLEMING) - OCT 29, 2007 - 16:5:57

FORMER ARCO SCRUBBER
DUCTWORK CLOSURE AREA

TRENCH NEAR
CHEMTREAT AREA

WPSC PROPERTY
BOUNDARY

OHIO RIVER



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Nashville, TN
Chicago, IL
St. Louis, MO
Detroit, MI

SITE LAYOUT
MARTIN'S FERRY PLANT
WHEELING-PITTSBURGH
STEEL CORPORATION

QUALITY MANAGER APPROVAL:

DRAWN BY:

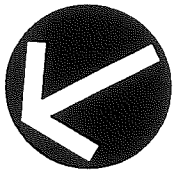
CAE CHKD BY

DWO SCALE

PROJECT NO:

071795.002

2 | FIGURE NO:



NORTH

CHEMTREAT
TANK

PROPOSED GEOPROBE ANGLE
BORING AND SOIL SAMPLE
LOCATION SS2

12" TO 18" THIN CRACK
IN TRENCH FLOOR
(APPROXIMATE LOCATION)

6" THIN CRACK IN
TRENCH SIDEWALL
(APPROXIMATE LOCATION)

115"

GALVANIZING
LINE

84"

EQUIPMENT

PROPOSED HAND
BORING AND SOIL
SAMPLE LOCATION SS1

HYDRAULIC UNIT

LEGEND



FORMER UTILITY TRENCH
BACKFILLED WITH CONCRETE



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Detroit, MI

FORMER UTILITY TRENCH LAYOUT
MARTINS FERRY PLANT
WHEELING-PITTSBURGH
STEEL CORPORATION

QUALITY MANAGER APPROVAL:

[Signature]

PROJECT NO:

071795.003

FIGURE NO:

DRAWN BY:

JHG

CHKD BY:

[Signature]

DWG SCALE: 3/8"=1'-0"

LAST EDIT DATE:

03/12/08

2



APPENDIX A

**MATERIAL SAFETY DATA SHEET (MSDS)
FOR CHEMTREAT SOLUTION**

CHEM-TREAT
48-INCH LINE

Chemetall Oakite

4663

MATERIAL SAFETY DATA SHEET

PRODUCT CODE: 4663
OAKITE OKEMCOAT F1
200-209-001

HMIS 3 0 1 J

SECTION I - PRODUCT IDENTIFICATION

TRADE NAME OAKITE OKEMCOAT F1 EMERGENCY TELEPHONE NUMBER:
CHEMICAL NAME (800) 424-9300 (CHEMTREC)
AND SYNONYMS NA-Mixture
MANUFACTURER'S NAME OAKITE PRODUCTS INC. (908) 464-6900 (8am-5pm)
AND TELEPHONE NO. A Member of The CHEMETALL Group
ADDRESS 50 Valley Road Berkeley Heights NJ 07922
DATE OF PREPARATION 05/18/2000

SECTION II - HAZARDOUS INGREDIENTS

	CAS NO.	% BY WT	ACGIH TLV (TWA)	OSHA PEL (TWA)	UNITS
Phosphoric acid (+)	0007664382	10-20	1	1	mg/m ³
Chromium trioxide (+) (as Cr VI, soluble)	0001333820	10-20	0.05	0.1	mg/m ³
Chromium phosphate (+) (as Cr III compounds)	0007789040	10-20	0.5	0.5	mg/m ³
Non-hazardous ingredients		Bal.			

Unidentified ingredients are considered not hazardous under Federal Hazard Communication Standard (29CFR 1910.1200).

All components of this material are on the US TSCA Inventory.

(+) This product contains ingredient(s) identified in Section II with (+) which are subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372.

SECTION III - PHYSICAL DATA

BOILING POINT (F) NE SPECIFIC GRAVITY (H2O=1) 1.418

Oakite Products Inc. warrants that the product or products described herein will conform with its published specifications. The products supplied by Oakite and information related to them are intended for use by buyers having necessary industrial skill and knowledge. Buyers should undertake sufficient verification and testing to determine the suitability of the Oakite materials for their own particular purpose. Since buyers' conditions of use of products are beyond Oakite's control, Oakite does not warrant any recommendations and information for the use of such products. OAKITE DISCLAIMS ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE USE OF ITS PRODUCTS.

NA - Not Applicable

NE - Not Established

Chemetall Oakite

4663

MATERIAL SAFETY DATA SHEET

VAPOR PRESSURE (mm Hg)	NE	Bulk Density	11.9 lb/gal
VAPOR DENSITY (Air=1)	NE	PERCENT VOLATILE	
SOLUBILITY IN WATER	Complete	BY WEIGHT(%) Excludes H2O	0
EVAPORATION RATE (Water=1)	<1	PH	NE
APPEARANCE AND ODOR	Green liquid; acid odor.	PH (concentrate)	<2.5

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used): None

FLAMMABLE LIMITS: LEL: NA UEL: NA

EXTINGUISHING MEDIA. Use media suitable for surrounding materials.

SPECIAL FIRE FIGHTING PROCEDURES: Wear Self-Contained Breathing Apparatus (SCBA)

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heat liberates oxygen which may intensify combustion. May react with combustible, organic or readily oxidizable materials.

SECTION V - HEALTH HAZARD INFORMATION

ROUTE(S) OF ENTRY:	INHALATION:	SKIN:	INGESTION:
	x	x	x

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known

SYMPTOMS/EFFECTS OF OVEREXPOSURE.

Inhalation of mist may cause respiratory irritation with coughing, sneezing, salivation and difficult breathing. Severe exposures may lead to chemical pneumonitis. Skin contact causes severe irritation and can produce ulcerations up to 48 hours after exposure. Eye contact causes severe or permanent damage. Chronic overexposure to some Chromium VI compounds can cause bronchitis, skin sensitization, and kidney and liver damage. Some Chromium VI compounds are known carcinogens (IARC, NTP).

FIRST AID

EYES: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get prompt medical attention.

SKIN: Immediately remove contaminated clothing. Wash skin with large amounts of water for at least 15 minutes. Get prompt medical attention. Wash clothing before reuse.

A - Not Applicable

NE - Not Established

Chemetall Oakite

4663

MATERIAL SAFETY DATA SHEET

INGESTION: Contact local poison control center or physician IMMEDIATELY!

INHALATION: Move victim to fresh air and restore breathing if necessary. Stay with victim until emergency medical help arrives.

SECTION VI - REACTIVITY DATA

STABILITY: NORMALLY STABLE

INCOMPATIBLE MATERIALS: Alkalies, Chlorine-releasing materials, Combustibles
Contact with certain metals may yield explosive hydrogen gas.

HAZARDOUS DECOMPOSITION PRODUCTS: Phosphorous oxides. Chromium oxides.

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURES: Wear personal protective equipment (See Section VIII).
Clean up with noncombustible absorbant material. Store in dry container for disposal.

WASTE DISPOSAL METHOD: Dispose of in accordance with Local State and Federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY: If TLV is exceeded, or For symptoms of overexposure, use NIOSH-approved acid gas cartridge and/or high efficiency particulate filter respirator

EYEWEAR: If splash potential exists wear chemical splash goggles or faceshield.

CLOTHING/GLOVES: If potential for skin contact exists, wear neoprene or other chemical resistant gloves and apron or coveralls and/or foot coverings, as needed.

VENTILATION: Local exhaust may be necessary for some handling/use conditions. Specific needs should be addressed by supervisory or health/safety personnel.

SECTION IX - SPECIAL PRECAUTIONS

NA - Not Applicable

NE - Not Established

Chemetall Oakite

4663

MATERIAL SAFETY DATA SHEET

CORROSIVE. Oxidizing properties. Store in closed container in cool well-ventilated area. NOTE: IF DILUTING (OR DISSOLVING) ALWAYS ADD THIS PRODUCT TO WATER SLOWLY AND WITH CONSTANT STIRRING.

APPROVAL *Michael Chang*
NAME

Mgr. Health & Environmental Dept.
TITLE

05/13/2000
DATE OF PRINTING

NA - Not Applicable

NE - Not Established



APPENDIX B

LABORATORY ANALYTICAL RESULTS OF LIQUID SAMPLES FROM TRENCH

- **OHIO EPA SAMPLE RESULTS**
 - **WPS SPLIT SAMPLE RESULTS**
-



OHIO EPA SAMPLE RESULTS



156 Starlite Drive, Marietta, OH 45750 • TEL 740-373-4071 • FAX 740-373-4835 • <http://www.kemron.com>

Laboratory Report Number: L0701060

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team. If you have questions, comments or require further assistance regarding this report, please contact your team member noted in the reviewed box below at 800-373-4071. Team member e-mail addresses also appear here for your convenience.

Debra Elliott - Team Leader

delliott@kemron-lab.com

Amanda Fickiesen - Client Services Specialist

afickiesen@kemron-lab.com

Cheryl Koelsch - Team Chemist/Data Specialist

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Stephanie Mossburg - Team Chemist/Data Specialist

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Katie Barnes - Team Assistant

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Kathy Albertson - Team Chemist/Data Specialist

kalbertson@kemron-lab.com

Cara Strickler - Team Assistant

cstrickler@kemron-lab.com

This report was reviewed on February 01, 2007.

Amanda Fickiesen

AMANDA FICKIESEN - Client Services Specialist

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

This report was certified on February 01, 2007.

David E. Vandenberg

David Vandenberg - Vice President

FL DOH NELAP ID: E8755

This report contains a total of 133 pages.

Protecting Our Environmental Future



LABORATORY REPORT

L0701060

02/01/07 08:14 -

Submitted By

KEMRON Environmental Services

156 Starlite Drive

Marietta, OH 45750

(740) 373-4071

For

Account Name: Ohio Environmental Protection Agency
2195 Front Street

Logan, OH 43138
Attention: Scott Bergreen

Account Number: 2755
Work ID: WPSC-MF

P.O. Number: L21223

Sample Summary

Client ID	Lab ID	Date Collected	Date Received
MF-1/BOTTOM	L0701060-01	01/03/2007 10:50	01/03/2007
MF-2/MIDDLE	L0701060-02	01/03/2007 11:00	01/03/2007
MF-2/BOTTOM	L0701060-03	01/03/2007 11:00	01/03/2007

KEMRON ENVIRONMENTAL SERVICES
GC/MS VOLATILE ORGANICS

KEMRON Login No.: L0701060

METHOD

Preparation: SW-846 5030B

Analysis: SW-846 8260B

HOLDING TIMES

Sample Preparation: Sample 01 TCLP extraction performed 21 days after collection.

Sample Analysis: Sample 01 TCLP extraction performed 21 days after collection.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds which yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spike: The MS/MSD results were not associated with this sample delivery group (SDG), due to insufficient volume of sample. Kemron recommends site specific MS/MSD samples to avoid possible data qualifications.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Analyst: CMS

Approved: 31-JAN-07
<i>[Signature]</i>

KEMRON ENVIRONMENTAL SERVICES
GENERAL CHEMISTRY

KEMRON Login No.: L0701060

METHOD

Analysis: See report for method reference.

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

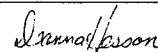
SAMPLES

There were no technical difficulties with the sample group.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Analyst: DIH

Approved: 30-JAN-07



KEMRON ENVIRONMENTAL SERVICES
METALS

KEMRON Login No: L0701060

METHOD

Preparation: SW-846 3015/3050B/7470A

Analysis: SW-846 6010B/7470A

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibrations: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

SAMPLES

WG232283(6010) - Due to results which were noncompliant on the negative side upon initial analysis, arsenic and selenium for client sample 02 were reported from a dilution analysis. Due to a result which exceeded the linear range of the instrument upon initial analysis, chromium for sample 02 was also reported from a dilution analysis. Client sample 02 yielded a chromium and selenium results which exceeded the regulatory limit.

WG232184(6010) - Due to a result which exceeded the linear range of the instrument upon initial analysis, chromium for client sample 02 was reported from a dilution analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Analyst: MMB, SLP

Approved: 30-JAN-07



KEMRON ENVIRONMENTAL SERVICES

Report Number: L0701060

Report Date : February 1, 2007

Sample Number: L0701060-01
 Client ID: MF-1/BOTTOM
 Matrix: Solidwaste
 Workgroup Number: WG232094
 Collect Date: 01/03/2007 10:50

PrePrep Method: NONE
 Prep Method: 9045C
 Analytical Method: 9045C
 Analyst: DLP
 Dilution: 1
 Units: UNITS

Instrument: ORION-710A
 Prep Date: 01/24/2007 15:55
 Cal Date:
 Run Date: 01/24/2007 15:55
 File ID: OR07012511193801

Analyte	CAS. Number	Result	Qual	RL	MDL
Corrosivity pH	10-29-7	2.09			

Sample Number: L0701060-01
 Client ID: MF-1/BOTTOM
 Matrix: Leachate
 Workgroup Number: WG232347
 Collect Date: 01/03/2007 10:50
 Sample Tag: DL01

PrePrep Method: 1311
 Prep Method: 5030B
 Analytical Method: 8260B
 Analyst: CMS
 Dilution: 10
 Units: ug/L

Instrument: HPMS8
 Prep Date: 01/27/2007 17:08
 Cal Date: 01/23/2007 16:10
 Run Date: 01/27/2007 17:08
 File ID: 8M333609

Analyte	CAS. Number	Result	Qual	RL	MDL	EPA HW#	Reg. Limit
Benzene	71-43-2		U	50	1.25	D018	500
Carbon tetrachloride	56-23-5		U	50	2.5	D019	500
Chlorobenzene	108-90-7	4.65	J	50	1.25	D021	100000
Chloroform	67-66-3		U	50	1.25	D022	6000
1,2-Dichloroethane	107-06-2		U	50	2.5	D028	500
1,1-Dichloroethene	75-35-4		U	50	5	D029	700
Methyl Ethyl Ketone	78-93-3	35.4	J	100	25	D035	200000
Tetrachloroethene	127-18-4		U	50	2.5	D039	700
Trichloroethene	79-01-6		U	50	2.5	D040	500
Vinyl chloride	75-01-4		U	100	2.5	D043	200
Surrogate	% Recovery	Lower	Upper				
Dibromofluoromethane	91.9	86	118				
1,2-Dichloroethane-d4	89.7	80	120				
Toluene-d8	98.5	88	110				
4-Bromofluorobenzene	96.3	86	115				

U Not detected at or above adjusted sample detection limit

J The analyte was positively identified, but the quantitation was below the RL

Sample Number: L0701060-02
 Client ID: MF-2/MIDDLE
 Matrix: Leachate
 Workgroup Number: WG232283
 Collect Date: 01/03/2007 11:00
 Sample Tag: 01

PrePrep Method: 1311
 Prep Method: 3015
 Analytical Method: 6010B
 Analyst: JYH
 Dilution: 1
 Units: mg/L

Instrument: IRIS-ICP
 Prep Date: 01/25/2007 12:30
 Cal Date: 01/26/2007 10:16
 Run Date: 01/26/2007 14:08
 File ID: IR.012607.140800

Analyte	CAS. Number	Result	Qual	RL	MDL	EPA HW#	Reg. Limit
Silver, TCLP	7440-22-4	0.884		.1	.05	D011	5
Barium, TCLP	7440-39-3	0.318	J	5	.025	D005	100
Cadmium, TCLP	7440-43-9	0.406		.1	.025	D006	1
Lead, TCLP	7439-92-1	1.04		1	.1	D008	5

J The analyte was positively identified, but the quantitation was below the RL

KEMRON ENVIRONMENTAL SERVICES

Report Number:L0701060

Report Date :February 1, 2007

Sample Number:L0701060-02
 Client ID:MF-2/MIDDLE
 Matrix:Leachate
 Workgroup Number:WG232283
 Collect Date:01/03/2007 11:00
 Sample Tag:DL03

PrePrep Method:1311
 Prep Method:3015
 Analytical Method:6010B
 Analyst:SLP
 Dilution:50
 Units:mg/L

InstrumentIRIS-ICP
 Prep Date:01/25/2007 12:30
 Cal Date:01/29/2007 09:50
 Run Date01/29/2007 15:28
 File ID:IR.012907.152800

Analyte	CAS.Number	Result	Qual	RL	MDL	EPA HW#	Reg. Limit
Chromium, TCLP	7440-47-3	7810		10	1.25	D007	5

Sample Number:L0701060-02
 Client ID:MF-2/MIDDLE
 Matrix:Leachate
 Workgroup Number:WG232283
 Collect Date:01/03/2007 11:00
 Sample Tag:DL02

PrePrep Method:1311
 Prep Method:3015
 Analytical Method:6010B
 Analyst:SLP
 Dilution:20
 Units:mg/L

InstrumentIRIS-ICP
 Prep Date:01/25/2007 12:30
 Cal Date:01/29/2007 09:50
 Run Date01/29/2007 15:22
 File ID:IR.012907.152200

Analyte	CAS.Number	Result	Qual	RL	MDL	EPA HW#	Reg. Limit
Arsenic, TCLP	7440-38-2		U	20	2	D004	5
Selenium, TCLP	7782-49-2	54.9		16	10	D010	1

U Not detected at or above adjusted sample detection limit

Sample Number:L0701060-02
 Client ID:MF-2/MIDDLE
 Matrix:LiqWaste
 Workgroup Number:WG232094
 Collect Date:01/03/2007 11:00

PrePrep Method:NONE
 Prep Method:9040C
 Analytical Method:9040C
 Analyst:DLP
 Dilution:1
 Units:UNITS

Instrument:ORION-710A
 Prep Date:01/24/2007 15:55
 Cal Date:
 Run Date:01/24/2007 15:55
 File ID:OR07012511193802

Analyte	CAS. Number	Result	Qual	RL	MDL
Corrosivity pH	10-29-7	2.30			

Sample Number:L0701060-02
 Client ID:MF-2/MIDDLE
 Matrix:Leachate
 Workgroup Number:WG232252
 Collect Date:01/03/2007 11:00
 Sample Tag:01

PrePrep Method:1311
 Prep Method:METHOD
 Analytical Method:7470A
 Analyst:MMB
 Dilution:1
 Units:mg/L

InstrumentHYDRA
 Prep Date:01/25/2007 12:45
 Cal Date:01/25/2007 18:54
 Run Date01/25/2007 19:44
 File ID:HY.012507.194404

Analyte	CAS.Number	Result	Qual	RL	MDL	EPA HW#	Reg. Limit
Mercury, TCLP	7439-97-6		U	.005	.001	D009	0.2

U Not detected at or above adjusted sample detection limit

KEMRON ENVIRONMENTAL SERVICES

Report Number: L0701060

Report Date : February 1, 2007

Sample Number: L0701060-02
 Client ID: MF-2/MIDDLE
 Matrix: LiqWaste
 Workgroup Number: WG232184
 Collect Date: 01/03/2007 11:00
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3015
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 100
 Units: mg/L

Instrument: IRIS-ICP
 Prep Date: 01/24/2007 10:30
 Cal Date: 01/29/2007 09:50
 Run Date: 01/29/2007 15:15
 File ID: IR.012907.151500

Analyte	CAS. Number	Result	Qual	RL	MDL
Chromium, Total	7440-47-3	8130		100	50.0

Sample Number: L0701060-03
 Client ID: MF-2/BOTTOM
 Matrix: Solidwaste
 Workgroup Number: WG232094
 Collect Date: 01/03/2007 11:00

PrePrep Method: NONE
 Prep Method: 9045C
 Analytical Method: 9045C
 Analyst: DLP
 Dilution: 1
 Units: UNITS

Instrument: ORION-710A
 Prep Date: 01/24/2007 15:55
 Cal Date:
 Run Date: 01/24/2007 15:55
 File ID: OR07012511193803

Analyte	CAS. Number	Result	Qual	RL	MDL
Corrosivity pH	10-29-7	2.68			

Sample Number: L0701060-03
 Client ID: MF-2/BOTTOM
 Matrix: Leachate
 Workgroup Number: WG232252
 Collect Date: 01/03/2007 11:00
 Sample Tag: 01

PrePrep Method: 1311
 Prep Method: METHOD
 Analytical Method: 7470A
 Analyst: MMB
 Dilution: 1
 Units: mg/L

Instrument: HYDRA
 Prep Date: 01/25/2007 12:45
 Cal Date: 01/25/2007 18:44
 Run Date: 01/25/2007 19:12
 File ID: HY.012507.191223

Analyte	CAS. Number	Result	Qual	RL	MDL	EPA HW#	Reg. Limit
Mercury, TCLP	7439-97-6	U		.005	.001	D009	0.2

U Not detected at or above adjusted sample detection limit

Sample Number: L0701060-03
 Client ID: MF-2/BOTTOM
 Matrix: Solidwaste
 Workgroup Number: WG232180
 Collect Date: 01/03/2007 11:00
 Sample Tag: DL01

PrePrep Method: NONE
 Prep Method: 3050B
 Analytical Method: 6010B
 Analyst: SLP
 Dilution: 100
 Units: mg/kg

Instrument: IRIS-ICP
 Prep Date: 01/24/2007 06:25
 Cal Date: 01/25/2007 13:35
 Run Date: 01/25/2007 14:46
 File ID: IR.012507.144600

Analyte	CAS. Number	Result	Qual	RL	MDL
Chromium, Total	7440-47-3	31600		66.7	8.00

KEMRON ENVIRONMENTAL SERVICES

Report Number: L0701060

Report Date : February 1, 2007

Sample Number: L0701060-03
Client ID: MF-2/BOTTOM
Matrix: Leachate
Workgroup Number: WG232283
Collect Date: 01/03/2007 11:00
Sample Tag: 01

PrePrep Method: 1311
Prep Method: 3015
Analytical Method: 6010B
Analyst: JYH
Dilution: 1
Units: mg/L

Instrument: IRIS-ICP
Prep Date: 01/25/2007 12:30
Cal Date: 01/26/2007 10:16
Run Date: 01/26/2007 12:37
File ID: IR.012607.123700

Analyte	CAS.Number	Result	Qual	RL	MDL	EPA HW#	Reg. Limit
Silver, TCLP	7440-22-4		U	.1	.05	D011	5
Arsenic, TCLP	7440-38-2		U	1	.1	D004	5
Barium, TCLP	7440-39-3		U	5	.025	D005	100
Cadmium, TCLP	7440-43-9		U	.1	.025	D006	1
Chromium, TCLP	7440-47-3		U	.2	.025	D007	5
Lead, TCLP	7439-92-1		U	1	.1	D008	5
Selenium, TCLP	7782-49-2		U	.8	.5	D010	1

U Not detected at or above adjusted sample detection limit

WORKGROUP SUMMARY BY METHOD

WORKGROUP SUMMARY BY METHOD

Analysis:Metals Analysis

Extraction Method:3050B

Workgroup:WG232066

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-03	MF-2/BOTTOM		01/24/07 06:25			HOT BLOCK	REK

Analysis:Corrosivity pH

Analytical Method:9045C

Workgroup:WG232094

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-01	MF-1/BOTTOM			01/24/07 15:55		ORION-710A	DLP
L0701060-02	MF-2/MIDDLE			01/24/07 15:55		ORION-710A	DLP
L0701060-03	MF-2/BOTTOM			01/24/07 15:55		ORION-710A	DLP

Analysis:Metals Analysis

Extraction Method:3015

Workgroup:WG232109

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-02	MF-2/MIDDLE		01/24/07 10:30			MICROWAVE	VC

Analysis:Metals Analysis

Analytical Method:6010B

Workgroup:WG232180

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-03	MF-2/BOTTOM		01/24/07 06:25	01/25/07 14:46	DL01	IRIS-ICP	SLP

WORKGROUP SUMMARY BY METHOD

Analysis:Metals Analysis_____

Analytical Method:6010B_____

Workgroup:WG232184_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-02	MF-2/MIDDLE		01/24/07 10:30	01/29/07 15:15	DL01	IRIS-ICP	SLP

Analysis:Mercury, TCLP_____

Extraction Method:METHOD_____

Workgroup:WG232221_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-02	MF-2/MIDDLE		01/25/07 12:45			HOT BLOCK	REK
L0701060-03	MF-2/BOTTOM		01/25/07 12:45			HOT BLOCK	REK

Analysis:Metals Analysis_____

Extraction Method:3015_____

Workgroup:WG232222_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-02	MF-2/MIDDLE		01/25/07 12:30			MICROWAVE	VC
L0701060-03	MF-2/BOTTOM		01/25/07 12:30			MICROWAVE	VC

Analysis:Mercury, TCLP_____

Analytical Method:7470A_____

Workgroup:WG232252_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-02	MF-2/MIDDLE		01/25/07 12:45	01/25/07 19:44	01	HYDRA	MMB
L0701060-03	MF-2/BOTTOM		01/25/07 12:45	01/25/07 19:12	01	HYDRA	MMB

WORKGROUP SUMMARY BY METHOD

Analysis:_____

Extraction Method:5030B_____

Workgroup:WG232268_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-01	MF-1/BOTTOM				232268	HPMS8	CMS
L0701060-01	MF-1/BOTTOM				232268	HPMS8	CMS

Analysis:Metals Analysis_____

Analytical Method:6010B_____

Workgroup:WG232283_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-02	MF-2/MIDDLE		01/25/07 12:30	01/26/07 14:08	01	IRIS-ICP	JYH
L0701060-02	MF-2/MIDDLE		01/25/07 12:30	01/29/07 15:22	DL02	IRIS-ICP	SLP
L0701060-02	MF-2/MIDDLE		01/25/07 12:30	01/29/07 15:28	DL03	IRIS-ICP	SLP
L0701060-03	MF-2/BOTTOM		01/25/07 12:30	01/26/07 12:37	01	IRIS-ICP	JYH

Analysis:_____

Analytical Method:8260B_____

Workgroup:WG232347_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-01	MF-1/BOTTOM	01/24/07 17:00		01/27/07 17:08	DL01	HPMS8	CMS
L0701060-01	MF-1/BOTTOM	01/24/07 17:00		01/27/07 17:08	DL01	HPMS8	CMS

Analysis:_____

Extraction Method:5030B_____

Workgroup:WG232347_____

Lab ID	Client ID	Tclp Date	Prep Date	Analysis Date	Tag	Inst Id	Analyst
L0701060-01	MF-1/BOTTOM				232347	HPMS8	CMS
L0701060-01	MF-1/BOTTOM				232347	HPMS8	CMS

Kemron Environmental Services
Analyst Listing
February 1, 2007

AJF - AMANDA J. FICKIESEN	ALB - ANNIE L. BOCK	ALT - ANN L. THAYER
ARA - ADRIAN R. ACHTERMANN	ASP - AARON S. PETRIE	BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS	CAK - CHERYL A. KOELSCH
CEB - CHAD E. BARNES	CFB - CHAD F. BOOK	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS	CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEPHENS	CPD - CHAD P. DAVIS	CSA - LUCINDA S. ARNOLD
CSH - CHRIS S. HILL	DAS - DALLAS A. SULLIVAN	DD - DIANE M. DENNIS
DDE - DEBRA D. ELLIOTT	DEL - DON E. LIGHTFRITZ	DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER	DIH - DEANNA I. HESSON	DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE	DLR - DIANNA L. RAUCH	DR - DEANNA ROBERTS
DRP - DAVE R. PITZER	DSF - DEBRA S. FREDERICK	DSM - DAVID S. MOSSOR
DST - DENNIS S. TEPE	ECL - ERIC C. LAWSON	ED - EMILY E. DECKER
FJB - FRANCES J. BOLDEN	HAV - HEMA VILASAGAR	JAL - JOHN A. LENT
JKT - JANE K. THOMPSON	JLS - JANICE L. SCHIMMEL	JNB - JOSHUA N. BOOTH
JS - JENNIFER L. SOUTHALL	JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KCZ - KEVIN C. ZUMBRO	KEB - KATHRYN E. BARNES
KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON	LKN - LINDA K. NEDEFF
LSB - LESLIE S. BUCINA	MDA - MIKE D. ALBERTSON	MDC - MICHAEL D. COCHRAN
MES - MARY E. SCHILLING	MKZ - MARILYN K. ZUMBRO	MLR - MARY L. ROCHOTTE
MLS - MICHAEL L. SCHIMMEL	MMB - MAREN M. BEERY	MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH	PJM - PAUL J. MILLER	RAH - ROY A. HALSTEAD
RB - ROBERT BUCHANAN	REK - ROBERT E. KYER	RNP - RICK N. PETTY
RWC - RODNEY W. CAMPBELL	SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF
SMH - SHAUNA M. HYDE	TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WFM - WALTER F. MARTIN	

KEMRON Environmental Services

List of Valid Qualifiers

February 01, 2007

Qualkey: STD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
A	See the report narrative
B	Analyte present in method blank
C	Confirmed by GC/MS
CG	Confluent growth
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
FL	Free Liquid
I	Semiquantitative result (out of instrument calibration range)
J	The analyte was positively identified, but the quantitation was below the RL
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	ESTIMATE & COLUMNS DON'T AGREE TO WITHIN 40%
L	Sample reporting limits elevated due to matrix interference
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit
ND,L	Not detected; sample reporting limit (RL) elevated due to interference
ND,S	Not detected; analyzed by method of standard additions (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria fail. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Undetected; the concentration is below the reported MDL.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
Z	Cannot be resolved from isomer - see below

***Special Notes for Organic Analytes

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.



WPS SPLIT SAMPLE RESULTS



STL Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

Tel: 412 963 7058 Fax: 412 963 2468
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. MF-BJS-07001

Wheeling Pittsburgh Steel

Lot #: C7A040207

Pat Smith

Wheeling Pittsburgh Steel

SEVERN TRENT LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "CK", located below the company name.

Christina M. Kovitch
Project Manager

January 11, 2007

**SEVERN
TRENT**
STL


NELAC REPORTING:

The format and content of the attached report meets NELAC standards and guidelines except as noted in the narrative. The table below presents a summary of the certifications held by STL Pittsburgh. Our primary accreditation authority for the Non-potable water and Solid & Hazardous waste programs is Pennsylvania DEP. A more detailed parameter list is available upon request. Please ask your project manager for this information when required.

Certifying State/Program	Certificate #	Program Types	STL Pittsburgh
NFESC	NA	NAVY	X
USACE	NA	Corps of Engineers	X
US Dept of Agriculture	(#S-46425)	Foreign Soil Import Permit	X
Arkansas	(#03-022-1)	WW	X
		HW	X
California - nelac	04224CA	WW	X
		HW	X
Connecticut	(#PH-0688)	WW	X
		HW	X
Florida - nelac	(#E87660)	WW	X
		HW	X
Illinois - nelac	(#200005)	WW	X
		HW	X
Kansas - nelac	(#E-10350)	WW	X
		HW	X
Louisiana - nelac	(#93200)	WW	X
		HW	X
New Hampshire - nelac	(#203002)	WW	X
		-	-
New Jersey - nelac	(PA-005)	WW	X
		HW	X
New York - nelac	(#11182)	WW	X
		HW	X
North Carolina	(#434)	WW	X
		HW	X
Ohio Vap	(#CL0063)	WW	X
		HW	X
Pennsylvania - nelac	(#02-00416)	WW	X
		HW	X
South Carolina	(#89014001)	WW	X
		HW	X
Utah - nelac	(STLP)	WW	X
		HW	X
West Virginia	(#142)	WW	X
		HW	X
Wisconsin	998027800	WW	X
		HW	X

The codes utilized for program types are described below:

HW Hazardous Waste certification

WW Non-potable Water and/or Wastewater certification

X Laboratory has some form of certification under the specific program. Many states certify laboratories for specific parameters or tests within a category. The information in the table indicates the lab is certified in a general category of testing. Please contact the laboratory if parameter specific certification information is required.

Updated: 04/27/06

CASE NARRATIVE
Wheeling Pittsburgh Steel

LOT # C7A040207

Sample Receiving:

STL Pittsburgh received one sample on January 4, 2007. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

Metals:

Due to the poor quality of the matrix of the samples 10x dilutions were necessary prior to sample digestion.

Sample LINE TRENCH LIQUID was over the instrument's linear range for chromium and required dilution.

TCLP Metals:

Due to the poor quality of the matrix of the samples 10x dilutions were necessary prior to sample digestion.

General Chemistry:

pH is a field parameter. Laboratory pH analysis was completed at the request of the client.

For pH, the sample was marked as water; however, a dilution had to be used due to the matrix of the sample. A dilution of 5g sample: 50mL Super Q was used.

METHODS SUMMARY

C7A040207

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH (Electrometric)	MCAWW 150.1	MCAWW 150.1
ICP-MS (6020)	SW846 6020	SW846 3010
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	SW846 1311/7470
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 1311/3010

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical
Methods", Third Edition, November 1986 and its updates.

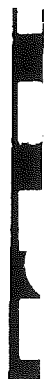
SAMPLE SUMMARY

C7A040207

WO #	SAMPLE#	CLIENT	SAMPLE ID	SAMPLED DATE	SAMP TIME
JMEKH	001	MF-PJS-07001	48" LINE TRENCH LIQUID	01/03/07	11:00

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



Chai

Customy Record



Severn Trent Laboratories, Inc.

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P.009/015

F-184

Wheeling Pittsburgh Steel

Lab Name: STL PITTSBURGH

Client ID: MF-PJS-07001 48" LINE TRENCH LIQUID

Plant Name: Wheeling Pittsburgh Steel

Lab ID: C7A040207 001

Matrix: WATER

Date Received: 1/4/2007

Date Sampled: 1/3/2007 11:00AM

Parameter	Result	Units	MDL	Reporting Limit	Dilution Factor	Prep/Analysis Date/Time	Analyst ID
SW846 6020	Acid Digestion for Total Metals					STL Pittsburgh	
Chromium	7880000	ug/L	13.7	100	50	1/5/2007 / 1/5/2007 21:21	BR
SW846 6010B	TCLP Leachate / Acid Digestion					STL Pittsburgh	
Lead	0.048	mg/L	0.016	0.030	10	1/8/2007 / 1/9/2007 13:43	RG
Barium	ND	mg/L	0.010	2.0	10	1/8/2007 / 1/9/2007 13:43	RG
Silver	ND	mg/L	0.0030	0.050	10	1/8/2007 / 1/9/2007 13:43	RG
Cadmium	0.27	mg/L	0.0070	0.050	10	1/8/2007 / 1/9/2007 13:43	RG
Selenium	ND	mg/L	0.52	1.0	200	1/8/2007 / 1/10/2007 11:32	RG
Arsenic	ND	mg/L	1.6	5.0	500	1/8/2007 / 1/10/2007 11:43	RG
Chromium	7740	mg/L	0.47	2.5	500	1/8/2007 / 1/10/2007 11:43	RG
SW846 7470A	TCLP Leachate / Mercury Preparation					STL Pittsburgh	
Mercury	ND	mg/L	0.00048	0.0020	10	1/8/2007 / 1/8/2007 19:47	JS
MCAWW 150.1	pH					STL Pittsburgh	
pH	3.0	No Units	-	-	1	1/4/2007 / 1/4/2007 20:02	WB

PITTSBURGH

Results per sample

Notes:

ND - Not Detected at the Reporting Limit

B - Compound detected, but below the Reporting Limit (the value given is an estimate).

J - Compound was detected in the Method Blank All associated samples are flagged with a "B"
Blank values below the RL are not narrated.

Wheeling Pittsburgh Steel

City Name:	STL PITTSBURGH
Client Name:	Wheeling Pittsburgh Steel
Matrix:	WATER

Client ID: INTRA-LAB QC

Lab ID: C7A040207 001

Analyses	DUP	Result	Reporting Limit	Dilution Factor	Analysis Date	Analyst ID	Percent Recovery	QC Limits	RPD/ Limit
MCAWW	150.1	pH			STL Pittsburgh				
pH		6.2	No Units	1	1/4/2007	WB			0.80/2.0
Analyses	LC'S	Result	Reporting Limit	Dilution Factor	Analysis Date	Analyst ID	Percent Recovery	QC Limits	RPD/ Limit
SW846	6020	Acid Digestion for Total Metals			STL Pittsburgh				
Chromium				1	1/5/2007	BR	102	(80 - 120)	
SW846	6010B	TCLP Leachate / Acid Digestion			STL Pittsburgh				
Arsenic				1	1/5/2007	RG	103	(80 - 120)	
Lead				1	1/5/2007	RG	103	(80 - 120)	
Barium				1	1/5/2007	RG	101	(80 - 120)	
Selenium				1	1/5/2007	RG	101	(80 - 120)	
Silver				1	1/5/2007	RG	103	(80 - 120)	
Cadmium				1	1/5/2007	RG	105	(80 - 120)	
Chromium				1	1/10/2007	RG	103	(80 - 120)	
SW846	7470A	TCLP Leachate / Mercury Preparation			STL Pittsburgh				
Mercury				1	1/8/2007	JS	97	(80 - 120)	
Analyses	LC'S	Result	Reporting Limit	Dilution Factor	Analysis Date	Analyst ID	Percent Recovery	QC Limits	RPD/ Limit
MCAWW	150.1	pH			STL Pittsburgh				
pH				1	1/4/2007	WB	100	(99 - 101)	
STL PITTSBURGH			Quality Control results						

Wheeling Pittsburgh Steel

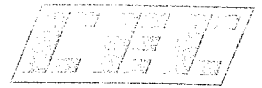
Name: STL PITTSBURGH
 Client Name: Wheeling Pittsburgh Steel
 Matrix: WATER

Client ID:
 Lab ID: C7A040207
 DUPLICATE CHECK

Analyses	LCSD	Result	Reporting Limit	Dilution Factor	Analysis Date	Analyst ID	Percent Recovery	QC Limits	RPD/Limit
SW846	6020	<i>Acid Digestion for Total Metals</i>		STL Pittsburgh					
Chromium		205	ug/L 2.0	1	1/5/2007	BR	103	(80 - 120)	0.34/20
SW846	6010B	<i>TCLP Leachate / Acid Digestion</i>		STL Pittsburgh					
Arsenic		2.06	mg/L 0.010	1	1/9/2007	RG	103	(80 - 120)	0.20/20
Lead		0.515	mg/L 0.0030	1	1/9/2007	RG	103	(80 - 120)	0.060/20
Barium		2.02	mg/L 0.20	1	1/9/2007	RG	101	(80 - 120)	0.030/20
Selenium		2.02	mg/L 0.0050	1	1/9/2007	RG	101	(80 - 120)	0.050/20
Silver		0.0611	mg/L 0.0050	1	1/9/2007	RG	102	(80 - 120)	0.65/20
Cadmium		0.0523	mg/L 0.0050	1	1/9/2007	RG	105	(80 - 120)	0.28/20
Chromium		0.205	mg/L 0.0050	1	1/10/2007	RG	102	(80 - 120)	0.75/20
SW846	7470A	<i>TCLP Leachate / Mercury Preparation</i>		STL Pittsburgh					
Mercury		0.00249	mg/L 0.00020	1	1/8/2007	JS	100	(80 - 120)	2.8/20
Analyses	MB	Result	Reporting Limit	Dilution Factor	Analysis Date	Analyst ID	Percent Recovery	QC Limits	RPD/Limit
SW846	6020	<i>Acid Digestion for Total Metals</i>		STL Pittsburgh					
Chromium		ND	ug/L 2.0	1	1/5/2007	BR			
SW846	6010B	<i>TCLP Leachate / Acid Digestion</i>		STL Pittsburgh					
Arsenic		ND	mg/L 0.010	1	1/9/2007	RG			
Lead		ND	mg/L 0.0030	1	1/9/2007	RG			
Barium		ND	mg/L 0.20	1	1/9/2007	RG			
Selenium		ND	mg/L 0.0050	1	1/9/2007	RG			
Silver		ND	mg/L 0.0050	1	1/9/2007	RG			
Cadmium		ND	mg/L 0.0050	1	1/9/2007	RG			
Chromium		ND	mg/L 0.0050	1	1/10/2007	RG			
SW846	7470A	<i>TCLP Leachate / Mercury Preparation</i>		STL Pittsburgh					
Mercury		ND	mg/L 0.00020	1	1/8/2007	JS			

STL PITTSBURGH

Quality Control results



APPENDIX C

STANDARD OPERATING PROCEDURES

- **DIRECT PUSH DRILLING AND SOIL SAMPLING**
 - **HAND SOIL SAMPLING**
-



DIRECT PUSH DRILLING AND SOIL SAMPLING

STANDARD OPERATING PROCEDURE

SUBSURFACE SOIL SAMPLING FOR METALS ANALYSIS – DIRECT PUSH METHOD

- I. **SCOPE AND APPLICABILITY:** This procedure is applicable to the collection of soil samples for metals analysis by the driller during advancement of borings in soil, unconsolidated materials, fill, and weathered bedrock.

II. **PROJECT SPECIFIC REQUIREMENTS**

Refer to applicable closure plan for project specific requirements, including sample locations, sample numbers, analytical parameters, and quality assurance samples to be collected.

III. **METHODOLOGY**

- A. Soil borings will be advanced using one of the following drilling methods:

Geoprobe® macrocore sampler, or equivalent: This will be the primary drilling method used to advance soil borings and facilitate the collection of subsurface soil samples. Standard operating procedures for this method are as follows:

1. Position the Geoprobe® drive assembly over the point to be sampled.
2. Hammer sampler as detailed in Geoprobe® sampling literature.
3. Collect macrocore soil core samples continuously from the soil boring.
4. Remove the macrocore sample liner from the 4-foot barrel sampler upon retrieval from the borehole. Split the acetate liner down the middle using a cutting tool exposing the soil core.
5. Document the sample recovery as the total length of sample retrieved.
6. Classify the material for color, composition, grain size, relative moisture content, relative density, origin, and other observable characteristics.
7. Split the soil core in half using a stainless steel knife, and observe the soil core for visual or olfactory signs of contamination. Record any signs of contamination in the field log book.
8. Transfer the designated interval (1-foot or 2-foot sample intervals) of soil core to a stainless steel bowl and mix thoroughly. Samples for laboratory analysis will be collected from the homogenized soil material using a stainless spoon and transferred directly into containers provided by the laboratory.
9. Decontaminate the direct push drill rods, sample tube assembly, and cutting shoe before use at the next soil boring. Perform the decontamination with a non-phosphate soap solution and wash brush. Rinse the components with potable water.

If refusal is encountered at a drilling location, advance hollow-stem augers beyond the depth of refusal until favorable subsurface conditions are again encountered. Disconnect the hollow-stem augers from the drill rig and leave in-place. Resume boring advancement using the direct-push Geoprobe® method inside of the hollow-stem augers. If the boring is not able to be advanced using the hollowstem augers, move the Geoprobe® rig several feet and attempt another boring. If refusal continues to be encountered after several relocation attempts, another drilling method will need to be considered.

IV. **PRECAUTIONS AND COMMON PROBLEMS**

- A. If sample recovery is low, instruct the driller to use plastic core catchers in the macrocore sampler. In tight soils, a core catcher may inhibit sample recovery.

V. **DOCUMENTATION**

- A. Complete a log for each soil boring completed. Document the soil boring ID, sample recoveries, blow counts (split-spoon method), PID readings, and subsurface material descriptions. Include laboratory sample locations, depth of fill, depth to encountered groundwater, and sampling refusal on each log. An example boring log is included in Appendix D.



HAND SOIL SAMPLING

STANDARD OPERATION PROCEDURE

SOIL – HAND SAMPLING

- I. **SCOPE AND APPLICABILITY:** This procedure describes manual collection of samples of surface and subsurface soil.

II. **PROJECT SPECIFIC REQUIREMENTS**

Refer to applicable closure plan for project specific requirements, including sample locations, sample numbers, analytical parameters, and quality assurance samples to be collected.

III. **METHODOLOGY**

- A. Clear the sample area of vegetation. In areas where concrete is present, the concrete will be cored and removed to expose the underlying soil.

- B. Samples should be collected using one of the following methods:

Method A: If the soil at the sampling location is loose and easy to penetrate, use a hand bucket auger to collect soil samples in 1-foot intervals to an approximate total depth of 4 feet. Transfer soil from the bucket auger to a stainless-steel mixing bowl for sample preparation. Measure the depth of the boring between sampling intervals.

Method B: If a hand auger is not able to penetrate the soil due to highly compacted soils or large cobbles, use a spud bar to loosen the soil to a 1-foot depth interval. The loosened soil can then be collected using a hand bucket auger and transferred to a stainless-steel mixing bowl for sample preparation. Remove any exposed rocks or cobbles by hand from the boring before sampling the next 1-foot interval. Measure the depth of the boring between sampling intervals.

- C. Place soil directly from the bucket auger into a decontaminated stainless-steel bowl.
- D. Field screen the sample for visual or olfactory signs of contamination and record those observations in the field log book.
- E. Classify the sample for gross composition, texture, color, relative degree of saturation, and other observable characteristics and record in the field log book.
- F. Mix the material in the stainless bowl thoroughly. Samples for laboratory analysis will be collected from the homogenized soil material using a stainless spoon and transferred directly into containers provided by the laboratory.
- G. Decontaminate all sampling equipment by hand brush using a non-phosphate soap solution followed by a triple rinse with de-ionized water. Perform decontamination procedures between each sampling interval.

IV. **DOCUMENTATION**

Complete a soil sampling summary form. Include the date, time, and method of sample collection, sample descriptions, and results of field screening.



APPENDIX D

EXAMPLE SOIL BORING LOG

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
FIELD SOIL BORING LOG
DIRECT PUSH METHOD

Boring Location				Sheet No.	
Drilling Method				Field Geologist	
Project Name				Project Number	
				Surface Elevation	
				Date	
				Started	
				Date Completed	
Depth (ft)	Lab Sample	Sample Recovery (ft)	PID (ppm)	Material Description	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

Field Conditions (weather, etc.) _____

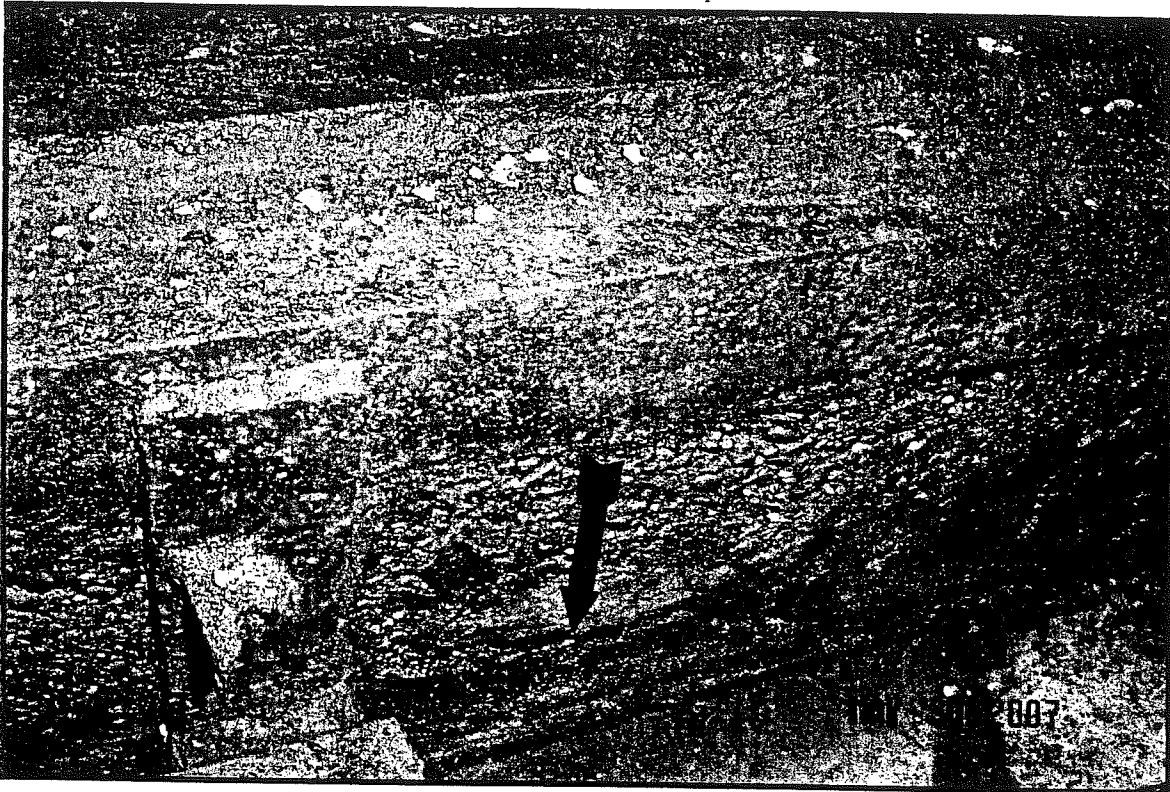
Comments _____



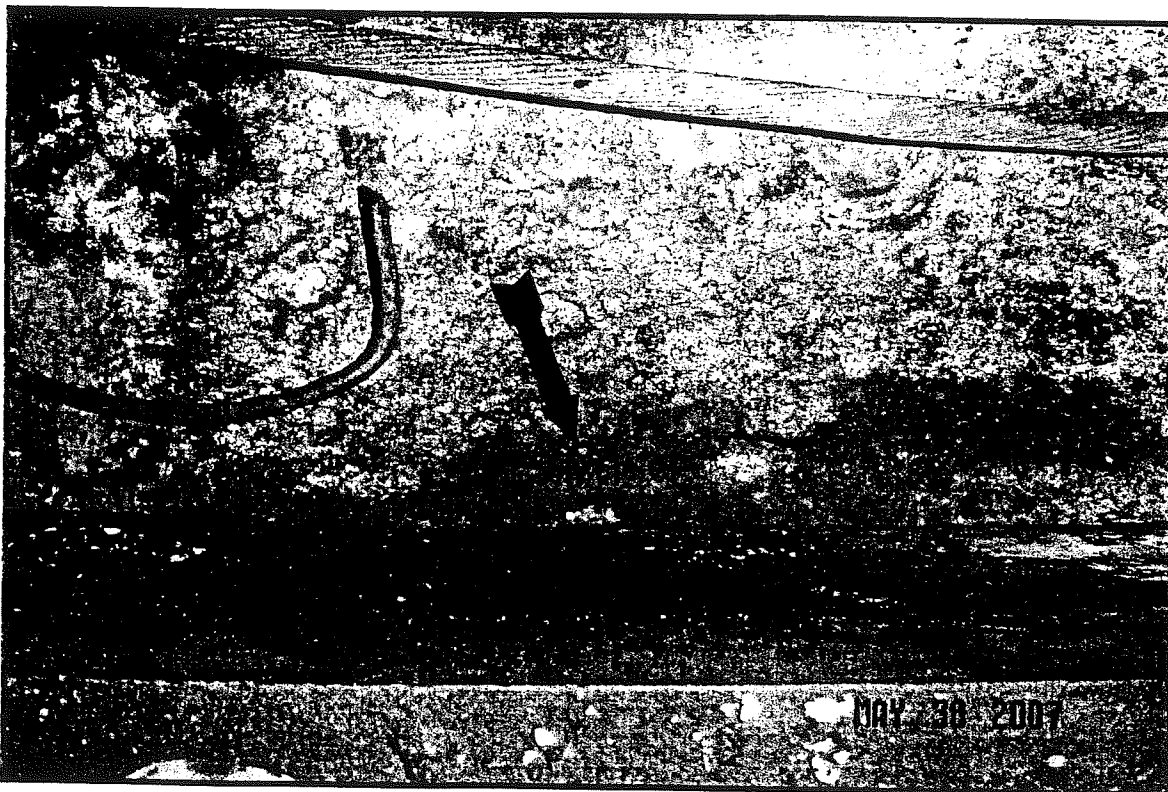
APPENDIX E

PHOTOGRAPHS

**APPENDIX E
PHOTOGRAPHS**



PHOTOGRAPH NO. 1
View looking north of crack in trench sidewall.



PHOTOGRAPH NO. 2
View of crack in trench bottom.

U.S. ENVIRONMENTAL
PROTECTION AGENCY

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